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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,489	02/25/2000	Aravind Sitaraman	CISCO-1818	7304

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EXAMINER	
AVELLINO, JOSEPH E	

ART UNIT	PAPER NUMBER
2143	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/513,489	SITARAMAN ET AL.	
	Examiner	Art Unit	
	Joseph E. Avellino	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,9,13,21-24,26-29,45-48,50,52,54,55,57-60 and 62-71* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,9,13,21-24,26-29,45-48,50,52,54,55,57-60 and 62-71* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-4, 9, 13, 21-24, 26-29, 45-48, 50, 52, 54, 55, 57-60, and 62-71 are pending in this examination. The Office acknowledges the cancellation of claim 53.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 13, 21, 26, 45, 54, 55, 58-60, and 63-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins (USPN 5,159,592) in view of Inoue et al. (USPN 6,891,819) (hereinafter '819) in view of Martin et al. (USPN 6,614,788) (hereinafter Martin).

2. Referring to claim 1, Perkins discloses a network access server (NAS) providing a connection to a user in a data communications network, said NAS being capable of communicating with a home gateway server (HGS), said NAS comprising:

an HGS identifier (pseudo-network number) identifying an HGS to which the request for an IP address is to be transmitted wherein the home domain is distinct from a domain associated with said NAS (col. 8, lines 45-68);

an IP address requester for requesting an IP address from the HGS (global Gateway or GW) on behalf of a user, without using a tunneling protocol, the HGS

maintaining a pool of IP addresses for allocation to authorized users associated with the NAS (local Gateway or GW) (e.g. abstract; Figures 2-5; col. 5, lines 50-65);

an IP address relayer for receiving an IP address allocated to the user from the HGS and for relaying the allocated IP address to the user (mobile unit) (e.g. abstract; Figures 2-5; col. 5, lines 50-65); and

a memory coupled with said IP address requester and said IP address relayer, said memory storing association between an identification of the user and the IP address allocated to the user (col. 5, lines 15-27).

Perkins does not the HGS identifier is responsive to log-in information provided by the user. In analogous art '819 discloses another network access server providing a user with access and connection to the internet wherein the HGS identifier (i.e. home agent 5) is responsive to log-in information provided by the user (i.e. mobile computer 2) (i.e. the user supplies "log-in information" such as the home agent identifier, which is then transmitted to the home agent server, and then authentication information is exchanged to authenticate the user) (col. 8, lines 44-49). It would have been obvious to one of ordinary skill in the art to combine the teaching of '819 with Perkins in order to allow the system of Perkins to be compatible with other networks, thereby increasing the range of the system as well as the customer base of which it can service, as well as authenticating an individual user who is operating the mobile computer when the mobile computer is connected to a visited site network and transmits a current location registration message to the home agent as supported by '819 (col. 2, lines 55-60).

Perkins in view of '819 do not specifically disclose the log-in information is transmitted with the request for an IP address, rather a challenge is sent to the mobile agent, and then a response with the log-in information is transmitted back to the server. In analogous art, Martin discloses another system for allocating IP addresses to users which utilizes a RADIUS server to receive a request for an IP address, with login information, which then authenticates the user, and if the user is authenticated, allocating an IP address for said user (Figure 12B; col. 7, lines 45-65). It would have been obvious to one of ordinary skill in the art to combine Martin with Perkins and '819 in order to reduce the number of messages sent in the system of '819, thereby reducing congestion on the network (i.e. instead of sending four separate messages, IP request, challenge, response, IP allocation, sending only two messages, IP request with password information, response).

3. Referring to claim 2, Perkins discloses a detector for periodically detecting connection of the user to the NAS, said detector updating the association in said memory to indicate that the allocated IP address is no longer in use if the connection of the user is lost (col. 5, lines 27-49).

4. Referring to claim 13, Perkins discloses a generator, responsive to the receipt of a disconnection request from the user (mobile unit), for generating and sending a notice to the HGS (global gateway) that the user is no longer connected to the NAS (local gateway) (col. 6, line 59 to col. 7, line 2).

5. Claims 21, 26, 45, 54-56, 58-60, and 63 are rejected for similar reasons as stated above. Furthermore Martin discloses transmitting the user's authentication information with the request for an IP address (see rejections above).

6. Referring to claims 64-67, Perkins discloses the global communications internetwork is the Internet (remote users spread over a wide geographic area) (col. 4, lines 21-38).

7. Referring to claims 68-71, Perkins discloses the user (i.e. mobile unit) belongs to the home domain (col. 8, lines 55-65).

Claims 3, 9, 23, 28, 47, 57, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of '819 in view of Martin in view of Holt et al. (USPN 6,070,192) (hereinafter Holt).

8. Referring to claims 3, 23, 28, 29 and 47, Perkins in view of '819 in view of Martin discloses a NAS as stated in the claims above. Perkins in view of '819 in view of Martin does not disclose providing a receiver for receiving periodic queries about the connection of the user to the NAS and a responder to inform the HGS about the connection. Holt discloses a receiver for receiving periodic queries from the Network

Controller (NC) about the status of the user connection to the NAS (col. 12, line 64 to col. 13, line 14); and

a responder responsive to said periodic queries for informing the NC that the user is still connected to the NAS (col. 12, line 64 to col. 13, line 14).

Holt does not disclose informing the HGS that the user is still connected, however the system of Holt could be obviously modified to incorporate the NC as part of the HGS, therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Holt to reduce the overall complexity of the system and reducing overall network traffic.

9. Referring to claims 9, 57, and 62, Perkins in view of '819 in view of Martin discloses a NAS as stated in the claims above. Perkins in view of '819 in view of Martin does not disclose the HGS identifier is responsive to call information associated with the incoming line. Holt discloses an HGS identifier responsive to call information associated with the incoming line used by the user to access the NAS for identifying an HGS to which to forward the user's request for an IP address (col. 11, lines 1-7). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Perkins and '819 with Holt to allow load balancing techniques such that bottlenecks are not realized at gateways as supported by Holt (col. 4, lines 45-50).

10. Referring to claim 52, Perkins in view of '819 in view of Martin in view of Holt disclose the NAS as stated in the claims above. Perkins in view of '819 in view of Martin in view of Holt do disclose that the IP address requester uses RADIUS (Martin: e.g. abstract).

Claims 4, 24, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of '819 in view of Martin in view of Holt as applied to the claims listed above, and further in view of Inuoe et al. (USPN 6,442,616) (hereinafter Inuoe).

11. Referring to claims 4, 24, and 48 Perkins in view of '819 in view of Holt discloses a Network Access Server (NAS) as stated in the claims above. Perkins in view of '819 in view of Martin in view of Holt does not disclose the NAS comprising a receiver for receiving periodic signals from the user and a forwarder responsive to said receiver for forwarding information to the HGS that the user is still connected to the NAS. Inoue discloses:

a receiver for receiving periodic signals from the user (col. 15, lines 21-24); and

a forwarder (home router) responsive to said receiver for forwarding information to the HGS that the user is still connected to the NAS (col. 15, lines 25-26).

It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Perkins, '819 and Holt with Inoue to efficiently monitor the connections in the network while reducing the complexity of the monitoring components.

Claims 22, 27, 46, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of '819 in view of Martin in view of Holt as applied to the claims above, and further in view of Reid et al. (USPN 6, 233, 616) (hereinafter Reid).

12. Referring to claims 22, 27, 46, and 50, Perkins in view of '819 in view of Holt disclose a NAS as stated in the claims above. Perkins in view of '819 in view of Holt do not disclose detecting a connection with the user and sending periodic keep-alive messages associated with the user to the HGS as long as the continuing connection with the user is detected. Reid discloses detecting a connection with the user and sending periodic keep-alive messages associated with the user to the HGS as long as the continuing connection with the user is detected (col. 2, lines 54-61; col. 4, lines 39-46). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Reid with Perkins and Holt to efficiently determine if the user is connected to the system, efficiently reducing complexity of messages transmitted between components.

Response to Amendment

13. Applicant's arguments filed May 4, 2007 have been fully considered but are not persuasive.

14. In the remarks, Applicant argues, in substance, that (1) Martin teaches away from sending authorization information with the request for an IP address because Martin discusses logging into the system after the allocation of an IP address, and (2) Martin does not teach that the authorization request contains any authentication information.

15. As to point (1) Applicant is incorrect. Martin teaches that the system must send an authorization request in order to receive the IP address. The LOGON Applicant is talking about has nothing to do with the IP allocation process, merely the accessing of the system. Martin explicitly teaches that the IP allocation is done in response to an authorization request, not in response to a LOGON request (see rejections above and col. 7). The LOGON and LOGOFF requests are mere accounting messages, when the user logs off the system, the IP address is cleared. This clearly demonstrates that Marton does, in fact, not teach away from the claimed invention. By this rationale, the rejection is maintained.

16. As to point (2), Applicant is incorrect. Martin discloses that the system is a RADIUS authentication server which is discussed in RFC 2138 (col. 1, lines 15-23). RFC 2138 defines that an Access-Request packets are sent to a RADIUS server, and convey information used to determine whether a user is allowed access to a specific NAS, and any special services requested for that user (section 4.1, page 13). RFC

2138 further discloses that an Access-Request MUST contain a User-Name attribute, and a User-Password attribute (section 4.1, page 13). This clearly would demonstrate to one of ordinary skill that the authorization request of Martin is an Access-Request message under the RADIUS protocol since it is requesting a special service for the user, which requires the use of a User-Name attribute, and a User-Password attribute. By this rationale, the rejection is maintained.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joseph E. Avellino, Examiner
May 18, 2007